Video Streaming through Tunnels

Overview
The current ThingWorx platform can send data to, and receive data from, remote sensors connected to the Internet called “The Edge”. The goal of this project was to enable communication with devices on The Edge that support video streaming. We focused our attention on the H.264 video standard. For this project, we were working with a Parrot Drone as our edge device that supports H.264 video streaming. This drone was connected to a computer which would act as a command center to control the drone as well as a middleman to relay the video stream to the ThingWorx EdgeServer.

Objectives
The goal of this project was to send H.264 video across the Internet of Things (IoT). In addition we sought out to present a live video stream feed to the sponsor’s network and extend the capabilities of PTC IoT devices. We further detailed a proof of concept demo to be used at trade show events.

Approach
• Discussed project needs with PTC to ensure adequate completion of tasks
• Visited sponsor’s site to enumerate project specifications
• Researched known open source libraries that support necessary functionality
• Researched potential Things to use as our IoT Thing device
• Discussed results with PTC
• Tested stream framework on known working solutions
• Created IoT graphical user interface
• Researched implementations of PTC IoT device code
• Integrated IoT video Thing device with PTC device code
• Tested integration on PTC IoT platform
• Presented results to sponsor

Outcomes
The results of this project pave the way for future development of the PTC IoT platform. We have accomplished the goals enumerated by our sponsor. We maintained fiscal responsibly with our budget by careful documentation of expenditures. The details of outcome of this project are governed by the NDA and thus cannot be further discussed in this document.